

Claims

1. A needleless injection device (1) comprising a  
body (2) supporting or delimiting a plurality of  
5 elements forming a circuit of elements, this  
circuit comprising an initiation device, a gas-  
generating cartridge (6), a reservoir (5)  
containing an active principle to be injected, and  
a system for injecting the active principle, the  
10 body (2) comprising a seat intended to receive  
said cartridge (6), said seat being accessible  
from the outside so that it is possible to insert  
the cartridge (6) directly into the circuit of  
elements, independently of the other elements,  
15 said device being characterized in that the gas-  
generating cartridge (6) is a pyrotechnic  
cartridge (6) comprising a pyrotechnic charge  
(62), and in the said cartridge (6) includes a  
primer (60).
- 20 2. The device (1) as claimed in claim 1,  
characterized in that the body (2) includes an  
opening (20) communicating with the seat.
- 25 3. The device (1) as claimed in claim 2,  
characterized in that the cartridge (6), once in  
place in the seat, closes off the opening (20) so  
as to seal it from the outside.
- 30 4. The device (1) as claimed in one of claims 1  
through 3, characterized in that the seat is  
placed between the initiation device and the  
reservoir (5) containing the liquid active  
principle.
- 35 5. The device (1) as claimed in one of claims 1  
through 4, characterized in that the circuit of  
elements follows an inverted U-shape including two

parallel branches interconnected by a perpendicular transverse branch.

6. The device (1) as claimed in claim 5, characterized in that the introduction of the cartridge (6) into the circuit is effected perpendicular to the axis of symmetry of the U formed by the circuit.
7. The device (1) as claimed in claim 5 or 6, characterized in that the cartridge (6) has an L-shape, and in that, once it has been inserted, its shape follows a right angle present between one of the parallel branches of the inverted U, formed by the circuit, and its transverse branch.
8. The device (1) as claimed in claim 1, characterized in that the cartridge (6) has the form of an L-shaped conduit in which the pyrotechnic charge (62) is placed, this conduit being closed off at one of its ends by the primer (60) and at its other end by a burstable sealing disk (61).
9. The device (1) as claimed in claim 1, characterized in that the device for initiating the pyrotechnic charge (62) includes a percussion device (3) for striking the primer.
10. The device (1) as claimed in claim 9, characterized in that the seat of the body (2), able to receive the cartridge (6), is placed between the percussion device (3) and a gas expansion chamber (4) situated upstream of the reservoir (5).
11. The device (1) as claimed in claim 10, characterized in that the body (2) comprises a first hollow part and a second hollow part which

are arranged on two parallel axes (A1, A2) and are connected by a conduit, this conduit delimiting the seat of the cartridge (6) and the gas expansion chamber (4).

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12. The device (1) as claimed in claim 11, characterized in that the cartridge (6) is placed in the seat of the body (2) in such a way that the primer (60) is situated on the axis of the percussion device (3) and the sealing disk (61) is situated on the axis of the gas expansion chamber (4).
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